IP Executable Spec Instructions

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April 16, 2017

Dependencies

1) GCC (or equivalent C compiler)
2) make
3) ipv4_to_udp.c, udp_to_ipv4.c, and the included Makefile
4) Hex reader such as xxd to see output

Note: Tested on Ubuntu 14.04, grey highlights represent commands in terminal

Instructions

To build and run **ipv4_to_udp.c** (representing IP_RX module):

1) make to_udp
   a. To build without make: gcc ipv4_to_udp.c -o itu
2) ./itu *<input_file> <output_file>*
   a. *input_file* represents the path to a file with only IPv4 UDP packets
   b. *output_file* represents the filename of the UDP payload output
   c. Example: ./itu ipv4_udp.bin udp.bin

To build and run **udp_to_ipv4.c** (representing IP_TX module):

1) make from_udp
   a. To build without make: gcc udp_to_ipv4.c -o uti
2) ./uti *<input_file> <output_file>*
   a. *input_file* represents the path to a file with only UDP packets
   b. *output_file* represents the filename of the IPv4 UDP packets output
   c. Example: ./uti udp.bin ipv4_udp.bin

To scroll through file output:

1) `xxd udp.bin | less`

Notes

1) The code uses no external libraries so it should be portable to other systems and can be built and run as easily as a helloworld C example
2) For IP_RX which ipv4_to_udp.c represents, protocol byte is output first followed by source and destination address followed by the UDP packet
3) For IP_TX which udp_to_ipv4.c represents, source and destination address are expected followed by protocol followed by the UDP packet (note different position of protocol)